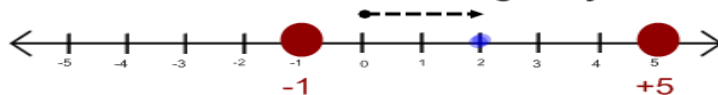


Name: _____ Period: _____ Date: _____

- starting point (erase after finding constraints)

shifts right by b



Count c spaces to the right & left

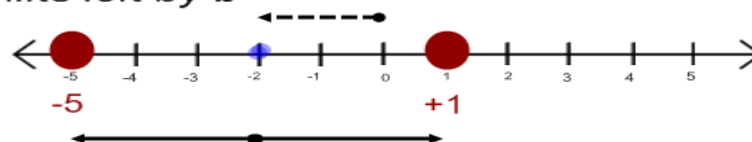
$$|x - b| = c \quad |x - 2| = 3$$

Equation Method	Example 2: $ 5x - 1 = 4$
Formula: $ x - b = c$ Solve for x. The solution is	<div><div>(-) Case 1 $5x - 1 = -4$ $\frac{+1}{+1} \frac{+1}{+1}$ $\frac{5x}{5} = \frac{-3}{5}$ $x = \frac{-3}{5} = -0.60$</div><div>(+) Case 2 $5x - 1 = 4$ $\frac{+1}{+1} \frac{+1}{+1}$ $\frac{5x}{5} = \frac{5}{5}$ $x = +1$</div></div>
Check it by substitution $ x - 2 = 3$ $ (-1) - 2 = 3$ True $ (5) - 2 = 3$ True	Check it by substitution $\left 5\left(\frac{-3}{5}\right) - 1\right = 4$ True $ 5(1) - 1 = 4$ True

Solve and Draw the Absolute Value Equation

1	$ x - 3 = 7$	
2	$ x - 1 = 4$	
3	$ x - 2 = 2$	

• starting point (erase after finding constraints)
shifts left by b



Count c spaces to the right & left


$$|x + b| = c \quad |x + 2| = 3$$

Equation Method	Example 2: $ 5x + 1 = 4$
Formula: $ x + b = c$ $ x + 2 = 3$ Solve for x . Case 1 Solution Case 2 The solution is Negative Positive (-) (+) $x + 2 = -3$ $x + 2 = +3$ $x = -5$ $x = 1$ Check it by substitution $ x + 2 = 3$ $ (-5) + 2 = 3$ True $ (1) + 2 = 3$ True	<div style="display: flex; justify-content: space-between;"> <div> (-) Solution Case 1 $5x - 1 = -4$ $\frac{+1}{+1} \quad \frac{+1}{+1}$ $\frac{5x}{5} = \frac{-3}{5}$ $x = -1$ </div> <div> (+) Solution Case 2 $5x - 1 = 4$ $\frac{+1}{+1} \quad \frac{+1}{+1}$ $\frac{5x}{5} = \frac{5}{5}$ $x = \frac{3}{5} = 0.60$ </div> </div> Check it by substitution $ 5(-1) + 1 = 4$ True $\left 5\left(\frac{3}{5}\right) + 1\right = 4$ True


Solve and Draw the Absolute Value Equation


1	$ x + 3 = 7$	Draw Number Line Here
2	$ x + 1 = 4$	
3	$ x + 2 = 2$	


Name: _____ Period: _____ Date: _____


4	$ 2x - 8 = 2$	
		

Solve and Draw the Absolute Value Equation

5	$-4 + x + 1 = 12$	Draw Number Line Here
		

6	$- x + 1 = -4$	
		

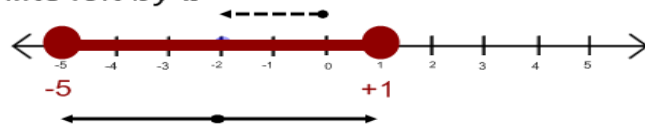
7	$ -2x + 2 = 4$	
		

8	$4 - x - 6 = -2$	
		

10	$ x = -2$	
<p>Think about the definition of absolute value. Is there an issue with this solution? Explain why or why we can not draw this.</p>		

Absolute Value Inequalities

- starting point (erase after finding constraints)
- shifts left by \mathbf{b}





Count c spaces to the right & left

$$|x + b| \leq c \qquad |x + 2| \leq 3$$


<u>Case 1</u> Negative (-)	Solution	<u>Case 2</u> Positive (+)
$-(x+2) \leq 3$ $-(x+2) \cdot (-1) \leq 3 \cdot (-1)$ $x+2 \geq -3$ $\underline{-2 \quad -2}$ $x \geq -5$		$x+2 \leq +3$ $\underline{-2 \quad -2}$ $x \leq 1$
Check it by substitution		
$ x+2 \leq 3$ $ (-5)+2 \leq 3 \quad \text{True}$		$ x+2 \leq 3$ $ (1)+2 \leq 3 \quad \text{True}$


Solve and Draw the Absolute Value Equation


1	$ x+3 \leq 7$	
		
2	$ x-1 \geq 4$	
		

Name: _____ Period: _____ Date: _____

Solve and Draw the Absolute Value Equation

3	$ x - 2 > 2$	
		

4	$ 2(x - 1) \leq 6$	
		

5	$ 2x - 5 \leq 15$	
		

6	$11 < 2x + 7 $	
		